Remarks

In response to the Office Action issued on September 21, 2004, applicant has amended claims 1 and 11. Claims 1-13 remain pending.

In paragraph 1 of the Office Action, the Examiner objected to the use of the term "small beam" in claim 11. Applicant has amended claim 11 to refer to the "first beam" recited in claim 1.

In paragraphs 2 and 3 of the Office Action, the Examiner has rejected claims 1-7, 10 and 13 under 35 U.S.C. § 102(a) as anticipated by Hughes U.S. Patent No. 1,019,153. Hughes generally discloses a double-bladed, pull-behind device to crown roads, which employs smooth beams on angles that force particulate material to the center of the device and then forms a crown in the middle of the road. By contrast, an embodiment of the present invention is directed to a grader that allows the user to cut into material, carry such material from a high spot to a low spot, and smooth out the material. As recited in claim 1, such an embodiment allows the grader to be flipped over and equally used in both directions. Thus, the claimed grader may be used in a first direction wherein the lift unit of the material handling vehicle engages the material first, followed by the first beam and then followed by the second beam, wherein as the grader is pulled in the first direction the first sides of the elongate beams face the material. The recited grader may then be flipped over and pulled in a second direction wherein the lift unit of the material handling vehicle may engage the material first, followed by the first beam and then followed by the second beam, wherein as the grader is pulled in the second direction the second sides of the elongate beams face the material. Due to the rigid nature of the

disclosed swing tree 3 and trees 2 of the Hughes scraper, the scraper shown and disclosed in Hughes is incapable of being flipped over and used in a second direction.

Furthermore, applicant has amended claim 1 to recite that the linkage assembly allows the lift unit to exert downward pressure on the first beam. Support for this amended claim language may be found on p. 6, lines 14-16 of the application. The ability of the lift unit to exert downward pressure on the first beam allows the grader to cut into the material. The Hughes scraper could not be used to cut into material because it does not have a rigid connection between the swing trees 3 and the first blade 5.

With respect to claims 2 through 4, the Examiner asserts that Hughes discloses that its front and rear blades 5 and 6 have two ground engaging edges. As shown in the side elevation of Figure 2, Hughes discloses that its front and rear blades have a single ground engaging edge (i.e., each "blade" is at the same height throughout its width). As such, the entire Hughes scrapper has only two ground engaging edges – not two on each beam. Furthermore, there is a significant difference between the function of the Smith beams and the Hughes blades. The use of two I-beams provides the present grader with four ground-engaging edges. The linkage system used allows any or all of these four edges to be used by connecting the grader to a lift unit, which moves the grader up and down. The Hughes scrapper, on the other hand, cannot do anything but use both of its blades. It cannot be used as a ground cutting device because of the length in the tug chains 8 and 9 necessary to obtain the angled bar configuration. In addition, the Hughes scrapper cannot be used with any upward pressure because the outer chains 8 are shorter than the inner chains 9 and, therefore, any upward pressure would simply lift the outside of the scrapper off the ground before the inside of the scrapper was raised. Finally the

rigid braces 7 of the Hughes scrapper necessary to keep the angled configuration means that any upward pressure on the front blades (regardless of the lifting of the outer edges) would cause the rear blades to simply roll and, therefore, would not obtain the proper use of the rear blades as a cutting edge. Thus, Hughes discloses a scrapper having only two ground engaging edges, which may only be used at the same time as a smoothing device.

Claim 5, which recites that the grader include at least one channel between the ground engaging edges of the beams to at least temporarily hold the material, is simply not disclosed by Hughes. The channel in Smith causes any material higher than the cutting edges to be carried between the two ground engaging edges and deposited in any lower spots. The alleged channel in Hughes, on the other hand, is simply a funnel that moves material to the center of the scrapper, where it is then smoothed by the center blade 10. The Hughes scraper simply cannot be used to automatically carry material from a high point to a low point because the alleged channels between the front blade 5 and the rear blade 6 simply funnel the material to the middle of the road, rather than carrying the material from one point to another.

With respect to claims 6 and 7, Hughes simply does not disclose V-bolts used as linkage bolts. Braces 7 illustrated in Hughes are intentionally rigid to maintain the angled orientation of the two ground engaging surfaces of blades 5 and 6. The V-shaped bolts recited in the present claims allow a continuously forward pressure to be maintained on any ground engaging edge even if other edges are lifted off the ground. This is the flexibility that allows the use of one to four cutting edges, and also allows the use of the present grader as a cutting device.

Regarding claim 10, the Examiner asserts that Hughes discloses a linkage bolt, tug chain, and key bolt. Applicant fails to understand where in Figure 1 of Hughes illustrates a linkage bolt and a key bolt (as the Examiner has referred generally to Figure 1 without pointing to any specific structure).

With respect to claim 13, the Examiner asserts that "beam 12" can be considered a snow removal attachment. In Figure 1 of Hughes, "12" refers to a bolt. If the Examiner meant to indicate center blade 10, such blade is not a separate attachment, but rather is a necessary component of the scrapper. Center blade 10 does not have any ground engaging edge below the remaining device, which is necessary in order for such component to be considered a snow removal attachment.

Thus, the Hughes scraper and the Smith grader were designed to accomplish fundamentally different purposes – crowning a road v. a multi-purpose material grader and smoother. These devices have fundamentally different characteristics and designs. Hughes does not disclose the features of Smith as recited in claim 1.

In paragraph 5 of the Office Action, the Examiner rejected claim 8 under 35 U.S.C. § 103(a) as being obvious in view of Hughes combined with Aikele U.S. Patent No. 1,663,965. Without conceding that Hughes teaches the grader as recited in claim 1, Aikele does not teach the use of I-beams. The road drag illustrated in Aikele uses railroad rails (not ties), which do not have two sharp ground engaging edges of equal height as in the steel I-beams recited in claim 8.

In paragraph 6 of the Office Action, the examiner rejected claim 9 under 35 U.S.C. § 103(a) as being obvious in view of Hughes. The Examiner asserts that Hughes discloses a material guard 12. Claim 9 recited a material guard on each end of the second

beam (i.e., the outside edge) to keep the material contained. The numeral 12 in Figure 1 of Hughes refers to a bolt (see line 56), which cannot be used as a material guard.

Claims 11 and 12 (rejected in paragraphs 7 and 8 of the Office Action) are allowable as being dependent from allowable claim 1.

In sum, the fundamental characteristics in the presently recited claims are a grading and smoothing device that can cut material, carry material, use a variety of ground engaging devices, and be used in both directions based on the unique linkage assembly. Accordingly, it is respectfully submitted that independent claim 1, as amended, is in a condition for allowance. Dependent claims 2-13 are also allowable not only by virtue of their dependency on allowable independent claim 1, but also because of the additional features that they recite. The examiner is encouraged to contact the undersigned attorney by telephone to resolve in remaining issues.

Respectfully submitted,

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